Priya Aryav

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Summary

• Software Engineer with 5+ years of experience building large-scale distributed systems and transformer-based training pipelines. Experienced in distributed training (PyTorch DDP), mixed precision (AMP), inference optimization, and end-to-end model implementation.

Projects & Blogs

- Implemented a decoder-only Transformer (GPT-style) from scratch in PyTorch and engineered a distributed training pipeline using DDP with mixed precision, gradient clipping, and LR scheduling, benchmarking multi-GPU scaling efficiency and throughput.
- Implemented a Byte Pair Encoding (BPE) tokenizer from scratch, including vocabulary learning and merge operations, for transformer-based language modeling.
- Built a minimal reverse-mode automatic differentiation engine (“opengrad”) with dynamic computation graph support and backpropagation, enabling training of small neural networks from first principles.
- Technical write-ups available on Bear Blog covering transformer architecture and training system implementation.

Skills

ML Systems:	**Distributed Training(DDP), Transformers Architecture, Post-training, Inference optimization**
Frameworks:	**PyTorch, JAX, Triton, CUDA**
Languages:	**Python, C, C++**
Systems:	**Linux, Distributed Systems, Docker, Kubernetes, Performance Profiling**

Work Experience

Bengaluru, India

Lowe’s - Software Engineer Dec 2025 - Present

- Designed and implemented a distributed Java/Python-based data integration platform replacing Informatica, eliminating proprietary dependencies and saving $4M annually through scalable architecture and performance optimization.
- Architected modular batch and streaming pipelines with improved observability, fault tolerance, and throughput, enabling maintainable large-scale data processing workflows.

IBM - Software Engineer June 2024 - Dec 2025

- Built real-time distributed data pipelines processing 1B+ records, reducing latency by 90% through architectural and parallelization optimizations.
- Led adoption of Spock & Groovy testing frameworks across microservices, improving reliability by 30% and reducing production defects by 25% through structured testing and CI practices.

TCS - Software Engineer Oct 2020 - June 2024

- Designed and scaled backend microservices and search systems (Spring Boot, Elasticsearch), handling 10K+ daily API calls while reducing response time by up to 50% and improving conversion by 14% through query optimization and caching.
- Led migration of six Tibco services to Spring Boot microservices, improving system efficiency 4x, increasing Salesforce Bulk API throughput by 50%, and implementing monitoring/alerting that reduced downtime by 80%.

Education

Bengal College of Engineering and Technology, Durgapur Aug 2016 - July 2020

B.Tech in Computer Science and Engineering